

1 CLAIMS

a what is claimed is:

1 1. Extrusion head for producing a tubular parison for the manufacture of blow-molded plastic hollow bodies, including an adjustable ring-shaped tube outlet nozzle with annular nozzle/mandrel gap adjustment elements which permit a targeted adjustment of the nozzle gap for varying the wall thickness of the exiting parison, characterized in that at least three separate nozzle/mandrel gap adjustment elements (D 0 = mandrel, DS I, DS II, DS III) which are differently profiled and exchangeable, and which individually or/and simultaneously can be brought into active engagement in the nozzle gap with the exiting parison from inside and outside, wherein at least two of the adjustment elements (D 0 = mandrel, DS I, DS II, DS III) is hereby adjustable and respectively provided with an adjustment drive.

1 2. Extrusion head according to claim 1, characterized in that the third additional adjustment element (DS II) is provided for the adjustment of a special profile (e. g. tooth profile) below the adjustment element (DS I) and adapted for acting as last wall thickness influence on the exiting tube.

1 3. Extrusion head according to claim 1 ~~or 2~~, characterized in that the lowermost inner edge of the third adjustment element (DS II), which can be brought into engagement with the exiting tube, is disposed at the same level or slightly above the lowermost outer edge of the central mandrel (D 0).

1 4. Extrusion head according to claim 1, ~~2 or 3~~, characterized in that the third
2 adjustment element (DS II) is provided with its own adjustment drive and is
3 guided for movement and displacement in axial direction.

1 5. Extrusion head according to claim 4, characterized in that the adjustment
2 elements (D 0, D 0*, DS I, DS II, DS III) are provided with a quick
3 attachment and configured for easy exchange.

1 6. Extrusion head according to ~~one of the preceding claims 1 to 5~~, characterized in that the third adjustment element (DS II) is of split configuration and made of two 180° half ring segments which are provided with a separate adjustment drive and guided for movement and displacement in radial direction.

1 7. Extrusion head according to ~~one of the preceding claims 1 through 6~~, characterized in that there is provided between adjustment element (DS I) and adjustment element (DS II) a further adjustment element (DS III) which is adjustable, e.g. supported for rotation in circumferential direction

1 8. Extrusion head according to claim 7, characterized in that the adjustment element (DS III) has the same special profile (e.g. tooth profile) as the adjustment element (DS I).

1 9. Extrusion head according to ~~one of the preceding claims 1 to 8,~~
2 characterized in that the axially adjustable adjustment element D 0*
3 supported on the mandrel holder (12) for axial displacement is provided with
4 a special profile (e.g. tooth profile).

1 10. Extrusion head according to claim 9, characterized in that the adjustment
2 element (D 0*) is provided with a special profile (e.g. tooth profile), that the
3 adjustment element (DS I) is provided without profile and smooth
4 throughout about its circumference, and that the adjustment element (DS II)
5 is provided with an oval-profile known per se.

1 11. Extrusion head according to ~~one of the preceding claims 1 to 10,~~
2 characterized in that the adjustment element (D 0*) is provided with a
3 rectangular tooth profile, wherein - for a 220 liters plastic drum (55 U.S.
4 gallons) with an outer diameter of about 585 mm at drum weight of about
5 9.5 kg - the diameter of the adjustment element is about 190 mm and the
6 inner and outer ring edges interacting with the ejected tube having
7 alternately about 60 grooves of half-round configuration as viewed in cross
8 section, and a complementary number of rectangular teeth, with the width of
9 the grooves being narrower than the width of the teeth.

1 12. Extrusion head according to claim 11, characterized in that the width of the
2 teeth is about 5mm, and the width of the grooves is about 4 mm, at a radial
3 depth of the grooves of about 10 mm.